

## Wake County Natural Areas Inventory

### MOCCASIN CREEK AQUATIC HABITAT

**Site Number:** 1

**Size:** about 11 air miles long (3 miles in Wake County)

**Site Significance:** State (Wake: County)

**Quadrangle:** Wake County – Zebulon

**Ownership:** North Carolina public waters

**SIGNIFICANT FEATURES:** The dwarf wedgemussel (*Alasmodonta heterodon*), Federally listed as Endangered, occurs in this aquatic habitat. Three other rare mussels found in this stream include the triangle floater (*Alasmodonta undulata*) and squawfoot (*Strophitus undulatus*), both state-listed as Threatened, and the notched rainbow (*Villosa constricta*), considered of Special Concern in North Carolina. The Neuse River waterdog (*Necturus lewisi*), state-listed as Special Concern, also occurs in Moccasin Creek. Of these rare species, only the waterdog has been found in the Wake County portion of the site.

**LANDSCAPE RELATIONSHIPS:** This site lies about 5 miles east of the Little River Aquatic Habitat. The nearest terrestrial site is the Old US 64 Granitic Flatrock, which is roughly 2 miles northwest of the upper end of the aquatic habitat. The majority of the site lies in Johnston County.

**SITE DESCRIPTION:** Moccasin Creek originates in the granite flatrock area along the Franklin/Wake county line northwest of Zebulon; the region is underlain by the massive granitic intrusion of the Rolesville Pluton. The stream is narrow to begin with but widens out below Bunn Lake where it enters the zone of highly metamorphosed rock composing the Eastern Slate Belt. From that point down to where it enters Buckhorn Reservoir, it possesses an extensive floodplain and a widely meandering channel. Substrates range from cobble to sand, gravel, silt, clay, and organic detritus. The site extends from the base of Bunn Lake east of Zebulon downstream to Buckhorn Reservoir, in Johnston County.

Although the Neuse River waterdog (*Necturus lewisi*) occurs as far upstream as the Bunn Lake dam, the rare species of mussels have all been found in the lower reach of Moccasin Creek, in the vicinity of NC 231 just upstream from the impoundment of Buckhorn Reservoir. Species recorded at this site during a survey conducted in 1991 (Alderman 1991) include all four of the rare species found in Moccasin Creek: the dwarf wedgemussel (*Alasmodonta heterodon*), triangle floater (*A. undulata*), squawfoot (*Strophitus undulatus*), and notched rainbow (*Villosa constricta*). Additionally present are three other more wide-ranging species, the eastern elliptio (*Elliptio complanata*), variable spike (*E. icterina*), and the Atlantic spike (*E. producta*); the first two have also been found upstream as far as US 264 near the Wake/Johnston/Nash county line.

**PROTECTION AND MANAGEMENT:** This site is North Carolina public waters, but it has no official protection, such as High Quality Water or Outstanding Resource Water.